

Course Syllabus – Fall 2015
NRM 5409 - Wildlife Population Dynamics

Instructors

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Course description

Subject material dealing with the mechanics of growth and structure of populations, departures from stability and natural and artificial regulation of population levels, and techniques used to survey and monitor wildlife populations.

Course objectives

Students will be introduced to the general concepts of wildlife ecology which emerge at various levels of organization - ecosystem, community, population, and individual. This information will be used to formulate plans to manage wildlife populations. Specifically, upon course completion students shall understand:

- The structure and dynamics of wildlife populations, competition, predation, dispersal, and population stability; life history characteristics.
- The use of mathematical, statistical, computer, and modeling tools to solve quantitative problems in the management of wildlife populations.
- Analysis, interpretation, and presentation of results in the form of scientific reports and management prescriptions.

Prerequisites

A basic understanding of statistics or biometry and general ecology, experience with personal computers, and a scientific calculator are required. Prerequisite: NRM 2302 and junior or senior status or approval of instructor.

Textbooks/course material

Sinclair, Fryxell, and Caughley. 2006. Wildlife ecology, conservation, and management. Second Edition, Blackwell Publishing, Malden, Massachusetts. (required)

Attendance

Attendance is imperative for the successful completion of this course, but is ultimately the responsibility of the student. If you must be absent, contact your instructor before the scheduled lecture. It is the student's responsibility to determine what information was missed and schedule make-up assignments. If you do not have a university excuse, you will receive a zero for work given that day. If you miss a quiz/examination and have a *university excuse*, a make-up quiz/examination will be given during the scheduled final exam at the end of the semester or as arranged with instructor. Contact instructor for details.

Grading

| | <u>Graduates</u> |
|--|------------------|
| Pop Quizzes & Participation & Assignments | 20% |
| Exam 1 | 20% |
| Exam 2 | 20% |
| Exam 3 (Final) | 20% |
| Lab | 20% |
| TOTAL | 100% |

Scale: 90-100% = A, 80-89% = B, 70-79% = C, 60-69% = D, <60% = F

Pop quizzes

- Pop quizzes will be given at the beginning of lecture and will be unannounced. You are responsible for all material covered in all previous lectures/labs. Quizzes are comprehensive.

Exams

- Exams will be given during lecture. As with the pop quizzes, you are responsible for all material covered in all previous lectures. Exams are comprehensive.

Assignments

- Assignments will pertain to material presented during lecture and will be due the following class period unless otherwise instructed.

Lab (Graduate students only)

- A lab focusing on computer exercises in population ecology is required for graduate students. The lab will be held in RAS126.

Academic dishonesty

Academic dishonesty includes copying, sharing, or obtaining information from an unauthorized source, attempting to take credit for the intellectual work of another person, falsifying information, and giving or receiving information about a test, quiz, or assignment to other students. Any student involved in academic dishonesty will receive no credit (0) for work done and/or may be penalized in accordance with published University Rules.

It is Sul Ross State University Policy to provide reasonable accommodation to students with disabilities. If you would like to request such accommodations because of physical, mental, or learning disability, please contact the ADA Coordinator for Program Accessibility in Briscoe Administration Building in Room 206 or call 432-837-8203.

It is my hope that you find this course both enjoyable and informative!

Additional Outcome Objectives as Required by the Southern Association of Colleges and Schools:

Program Learning Outcomes for the B.S. in Natural Resource Management

The graduating student will demonstrate that he/she is able to:

1. Identify species of wildland plants and wildlife common to the western United States and describe their natural history.
2. Demonstrate knowledge of the elements of an ecosystem.
3. Communicate about natural resources and conservation both verbally and in writing.
4. Conduct range and wildlife inventories in a team setting.
5. Apply knowledge about elements of an ecosystem into an appropriate conservation management plan.

Program Learning Outcomes for the M.Agr. in Range and Wildlife Management

The graduating student will demonstrate that he/she is able to:

1. Apply statistical concepts and procedures to natural resource data
2. Evaluate literature and references as they apply to the natural resource field
3. Demonstrate their knowledge of the fundamentals and advanced concepts of range and wildlife management.

Program Learning Outcomes for the M.S. in Range and Wildlife Management

The graduating student will demonstrate that he/she is able to:

1. Apply statistical concepts and procedures to natural resource data
2. Evaluate literature and references to substantiate an applied research project.
3. Examine, select, and utilize appropriate resources, materials, and data collection instruments to implement research projects.
4. Justify and defend the research questions and design.

NRM 5409: Wildlife Population Dynamics
Fall 2015 - Lecture Schedule

| Chapter | Lecture Topic |
|----------------|--|
| Ch 1 | Introduction |
| Ch 2 | Biomes |
| Ch 3 | Animals as individuals. |
| Ch 6 | Population growth: Estimation of survival rates. |
| Ch 7 | Dispersal, dispersion, and distribution. |
| | EXAM 1 |
| Ch 13 | Counting animals. |
| Ch 4 | Food and nutrition. |
| Ch 12 | Consumer resource dynamics. |
| | EXAM 2 |
| Ch 8 | Competition within species. |
| Ch 9 | Competition between species. |
| Ch 10 | Predation |
| Ch 11 | Parasites and pathogens. |
| Ch 17 | Conservation in theory. |
| Ch 18 | Conservation in practice. |
| Ch 19 | Wildlife harvesting. |
| Ch 20 | Wildlife control. |
| | FINAL EXAM – |